How to design the surface of peptide-loaded nanoparticles for efficient oral bioavailability?

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Résumé en anglais	The oral administration of proteins is a current challenge to be faced in the field of therapeutics. There is currently much interest in nanocarriers since they can enhance oral bioavailability. For lack of a clear definition, the key characteristics of nanoparticles have been highlighted. Specific surface area is one of these characteristics and represents a huge source of energy that can be used to control the biological fate of the carrier. The review discusses nanocarrier stability, mucus interaction and absorption through the intestinal epithelium. The protein corona, which has raised interest over the last decade, is also discussed. The universal ideal surface is a myth and over-coated carriers are not a solution either. Besides, common excipients can be useful on several targets. The suitable design should rather take into account the composition, structure and behavior of unmodified nanomaterials.
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